The UNECE Task Force :

Key climate change-related indicators

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Purpose of the TF

To define an internationally comparable set of key climate change-related indicators that can be derived from the SEEA and others sources, such as FDES.

TF vision

To develop a comprehensive set of maximum 40 indicators which serves multiple purposes:

1. Allowing international comparison
2. Painting the picture of the most relevant climate change-related issues
3. Addressing most relevant current policy questions
4. Helping to identify upcoming information needs

Methodological approach (1/2)

1. Agreement on basic principles
   (like key CC-related indicators and key CC-related statistics)
2. Inventory and analyze of reference documents
   (frameworks like SEEA and FDES, studies, reports, international and national indicators sets like UN-SDG)
3. Identification of potential CC-related indicators and policy questions
   (205 indicators and 140 policy questions)
4. Grouping the policy questions under so-called “umbrella questions”
   (36 umbrella questions)
5. Prioritization of umbrella questions
   (survey on the relevance of individual umbrella questions)

Methodological approach (2/2)

6. Selection of key CC-related indicators
   (39 indicators classified by area and sub-area)
7. Characterization of these selected indicators
   (for each indicator, a metadata sheet has been created with: definition, link to international framework,…)
8. Definition of the key climate change related statistics
   (on going)
9. Recommendations on implementation and follow up work
   (survey on data availability)

Survey results

Proposal for key CC-related indicators

Drivers

		Availability	Fully mature	Reported to Int. Org.	Compiled by NSO
1	Total primary energy consumption	35	32	31	22
2	Share of fossil fuels in primary energy consumption	32	30	26	19
3	Land use/cover change	25	18	15	14
4	Total support for fossil fuels / GDP	7	3	3	4
5	Total energy efficiency of the economy	25	20	10	17
6	Carbon intensity of energy for the economy	16	14	3	9
7	Cattle stock	34	33	22	30
8	Energy consumption by households / capita	31	26	18	24

Survey results

Proposal for key CC-related indicators

Emissions

		Availability	Fully mature	Reported to Int. Org.	Compiled by NSO
9	Total GHG emissions	39	36	35	10
10	CO2 emissions from fuel combustion	36	32	27	7
11	GHG emissions from LULUCF	34	31	26	1
12	Total GHG emission of production activities, residence based	30	24	24	19
13	GHG emission intensity of production activities	27	22	12	14
14	Direct GHG emissions from households	29	23	21	17
15	Carbon footprint	15	4	3	7

Impacts

		Availability	Fully mature	Reported to Int. Org.	Compiled by NSO
16	Mean temperature	30	27	12	2
17	Change of precipitation pattern	26	23	11	2
18	Level of water stress: freshwater withdrawal as a proportion of available freshwater resources	22	11	8	7
19	Cumulative number of alien species	18	8	5	0
20	Carbon stock in soil	10	3	4	2
21	Proportion of land that is degraded over total land area	10	4	4	3
22	Number of deaths, missing, injured, affected by climatological, hydrological and meteorological disasters	16	11	7	3
23	Occurrence of extreme weather events	16	14	7	2
24	Direct Economic loss due to hazardous climatological, meteorological and hydrological events in relation to GDP	5	4	2	0
25	Number of housing units damaged and destroyed by climatological, hydrological and meteorologocal disasters	9	5	3	1
26	Incidence and distribution of vector-borne diseases (e.g. West Nile virus, malaria, Lyme disease)	12	11	8	1
27	Heat-related mortality	16	12	6	5
28	Agricultural losses from droughts, floods and other severe weather events	6	4	2	3

Survey results

Proposal for key CC-related indicators

Mitigations

		Availability	Fully mature	Reported to Int. Org.	Compiled by NSO
29	Renewable energy share in the total final energy use/consumption	**33**	**27**	**22**	17
30	Share of climate change mitigation expenditure relative to GDP	4	0	1	2
31	Share of energy and transport related taxes as percentage of total taxes and social contributions	18	15	11	13
32	Total climate change related subsidies and similar transfers / GDP	6	1	1	5
33	Average carbon price	9	6	2	1
34	Mobilized amount of USD per year starting in 2020 accountable towards the USD 100 billion commitment	2	2	2	0

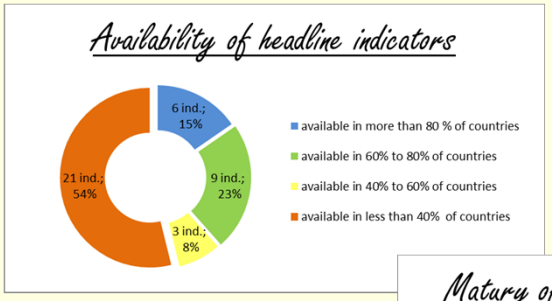
Survey results

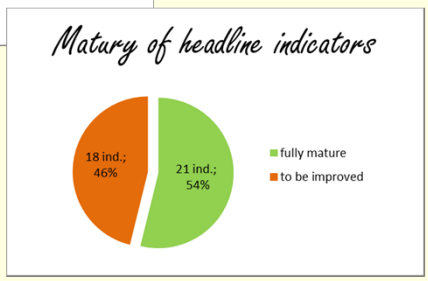
Proposal for key CC-related indicators

Adaptations

		Availability	Fully mature	Reported to Int. Org.	Compiled by NSO
35	Share of government adaptation expenditure to GDP	2	0	1	1
36	Change in water use efficiency over time	10	7	2	5
37	Proportion of population living in dwellings with air conditioners or air conditioning	13	10	0	13
38	Progress towards sustainable forest management	11	6	4	2
39	Proportion of agricultural area under productive and sustainable agriculture	10	7	3	4

Global results of the survey





First observations

- *Indicators on drivers and emissions are pretty well available, but indicators on impacts, mitigations and adaptions need more work.*
- *For many of these indicators, the methodology to compile them are not considered as fully mature: international organizations have a role to play in this domain.*
- *The transmission of many indicators to international organizations is not designed in the current collections: should be organized a specific collection by UNECE ?*
- *For a vast majority of indicators mentioned as available, NSO is not the author of these indicators : the compilation of CCRI requests effective exchanges between NSO and other agencies.*

Climate Change-related statistics

- *Half of the proposed indicators coming from SEEA*
  - *75% in Drivers (6 of 8 indicators),*
  - *86% in Emissions (6 of 7 indicators),*
  - *8% in Impacts (1 of 13 indicators),*
  - *50% in Mitigation (3 of 6 indicators),*
  - *40% in Adaptation (2 of 5 indicators).*
- *Three quarters of proposed indicators are mentioned in FDES*
- *Ten indicators are SDG indicators*
- *Three indicators are Sendai indicators*

Questions